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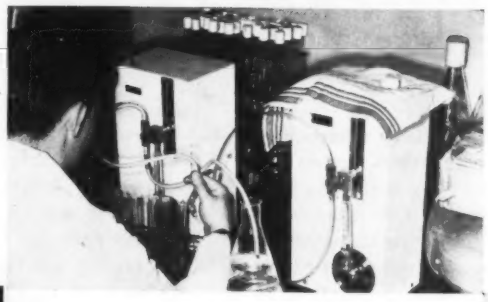
NATIONAL TUBERCULOSIS ASSOCIATION

DECEMBER 1958



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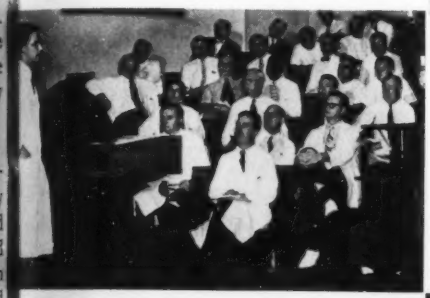

medical education

health education

Christmas Seals help to provide these services

rehabilitation

nursing education

case finding

The 1958 Christmas Seal Sale: Time Out to Remember

By Betty Leman

Associate, Christmas Seal Sale Division, National Tuberculosis Association

In these early days of December, tuberculosis associations across the land are beehives of activity. Countless numbers of volunteer workers, together with their staff counterparts, are fighting weariness and fatigue in the seemingly endless round of opening mail, recording and comparing returns, and preparing to mail reminders to all persons who have not yet responded to the 1958 Christmas Seal Sale. There's hardly time to complete the job at hand, much less time to think!

But it's important that we take the time, for there's danger that we may become so involved in the techniques of fund raising that we may forget about the tuberculosis control programs that depend on funds raised during this Seal Sale for their continuance or their initiation. A few thoughts about the reasons why we are raising funds will renew our zeal to make the 52nd annual Seal Sale the most successful we have conducted. They will refresh and invigorate us, for they give meaning to our efforts.

Whether we identify most closely, as individual workers, with the local, the state, or the national program, many associations would probably give medical research and medical education a high priority among programs needing financial support and public understanding. From one quarter to one third of our population, or about 55 million Americans, is already infected with the TB germ. To conquer tuberculosis, we must support research programs to discover how to eradicate TB infection among these people, and we must find better methods to increase resistance to TB infection. These are but two of the major goals of our medical research programs which will require increasing support in the future to assure their success.

In tuberculosis-detection programs, emphasis is being placed on selective case finding among high-incidence groups. The tuberculin test is being used more widely, particularly among school and industrial groups, where formerly periodic X-ray surveys had become accepted procedures. We are retooling our education and case-finding programs in light of the best scientific information on radiological health and the nature of the tuberculosis problem in each area. Retooling is costly, in terms of materials and manpower. In anticipation of even greater changes in the case-finding programs of the future, we must be ready, both psychologically and financially, to change with the times.

Our increasing interest in medical research and in more effective control programs has not overshadowed our concern for the people who have tuberculosis and for their families. Ever since the first Seal Sale in America, which was conducted to assure continued medical care for a small group of patients, tuberculosis associations have dedicated themselves to seeking the best possible treatment programs for meeting the many needs of the tuberculous. While we can be proud of the part we have played in developing high-quality medical-care programs, we still have much to do in awakening the public conscience and spurring community action to meet the social, medical, financial, and economic needs of the tuberculous and their families, not only in the hospital but in the home.

The Christmas Seal Sale letters recently received in more than 35 million homes reflect these program interests. By devoting ourselves, during the next six to eight weeks, to using every opportunity to follow up and promote our Seal Sale efforts to provide funds for program support, we will make the '58 Sale the most successful in our history.

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NATIONAL TUBERCULOSIS ASSOCIATION

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CAUTION

TB IN UNEXPECTED AREAS

Scattered throughout the country are unsuspected "pockets" of tuberculosis. To find them demands special vigilance and flexibility in our case-finding programs

By Daniel E. Jenkins, M.D.

Every person interested in the control of tuberculosis should be aware that scattered throughout the country are numerous areas where tuberculosis continues to spread in a relatively uncontrolled manner and where infection rates, new case rates, and mortality rates are much higher than the national average. Unless an intelligent and concerted effort is made to find these areas, they may remain undetected far too long.

In the last few years there has been a shift in the emphasis on case finding from community-wide surveys to selective surveys among special groups. Since the yield of active tuberculosis found among such groups varies considerably, the case-finding methods initially employed vary, too, the tuberculin test being used in areas known or expected to have a low prevalence of tuberculosis. To avoid unnecessary radiation effects, the tuberculin test also has advantages over microfilming or other radiographic techniques and is the preferable initial method of case finding among such groups as preschool and school-age children, adolescents and young adults, pregnant women and young diabetics.

At best, however, these approaches to case finding are spotty and may be subject to certain unavoidable errors of omission, depending upon the judgment exercised in selecting the groups of people who are to be surveyed and the thoroughness of follow-up. Without the vigorous substitution of wide-scale tuberculin testing, the abandonment of mass X-ray methods of case finding and the selective use of radiographic surveys for special groups of people may create gaps in the tuberculosis-detection program which could easily result in a reappearance of tuberculosis in many unexpected areas.

There are certain places throughout the country where the prevalence of tuberculosis is known to be high and where efforts to control the spread of the disease are continuously applied with varying degrees of success. The high tuberculosis mortality rate in Arizona, the higher numbers of positive reactors in the urban as opposed to the rural areas, and the generally increased incidence of tuberculosis in large metropolitan centers are known to almost all tuberculosis workers and constitute expected areas of high prevalence.

An unexpected area is one in which a high incidence of tuberculosis is not anticipated and is uncovered either accidentally or, as is usually the case, through applying case-finding techniques of one sort or another in such a way as to reveal the problem. The size and the location of the unexpected area may vary considerably: it may be in the midst of a city, it may be a rural community, or it may be what is generally regarded as a low-prevalence area.

By way of illustration, the Houston-Harris County (Tex.) Tuberculosis Association, which covers a rapidly growing community of more than a million people, has conducted a mass annual radiographic survey in this

Dr. Jenkins is professor of internal medicine, Baylor University College of Medicine, Houston, Tex.; president of the American Trudeau Society; and in charge of the Pulmonary Disease Section of the Medical Service at Jefferson Davis Hospital, Houston. He is a member of the board of directors of the Texas Tuberculosis Association and the Houston-Harris County Tuberculosis Association. Dr. Jenkins received his medical degree at the University of Texas Medical Branch. His article was solicited by the Governing Council of the National Conference of Tuberculosis Workers.

county for many years. The yield of active cases of tuberculosis uncovered has been gradually declining, as indicated below.

Year	Total X-rays taken	Cases of Active TB per 1000 persons examined
1951	101,585	3.7
1952	119,765	2.3
1953	122,978	1.5
1954	137,383	.8
1955	139,551	.9
1956	133,567	.9
1957	145,534	.7

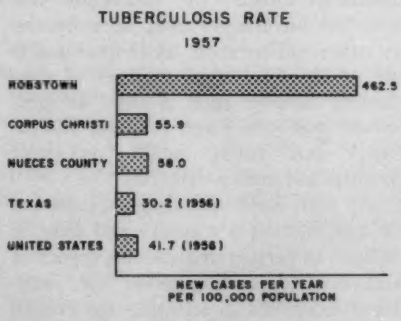
Because of the declining rate of new cases found by mass radiography, other methods of case finding were explored. The U. S. Public Health Service first conducted a door-to-door tuberculin-testing survey in the slum areas, in which 1,000 small children were tuberculin tested. The rather disappointingly low rate of 3.4 per cent positive tuberculin tests in this group of children was similar to the 2.0 per cent positives found among 13,000 children who visited the Houston Health Centers and were given tuberculin tests during the same approximate time.

At a later date in the same community, a program of family-contact investigation and follow-up was established with financial assistance from the Texas Tuberculosis Association, the Houston-Harris County association, and the National Tuberculosis Association. In this program, emphasis was placed upon tuberculin testing children, mostly of preschool age, in the pediatric and well-baby clinics, in health centers, and in private doctors' offices, and then following up the immediate family and household contacts of all tuberculin-positive children. Further search was made among the more distant contacts, such as relatives and close friends. This program produced an unexpectedly high yield of new cases of active tuberculosis, none of which were previously known to health authorities.

In 1957, 341 adult contacts were examined through this program. The rate of new cases of active tuberculosis found was 44 per 1,000 adults examined. Among 479 child contacts who were similarly followed up, the new case rate was 165 new cases of active primary tuberculosis per 1,000 children examined.

Included in this classification of active primary tuberculosis were all children with clinical, radiological, or bacteriological evidence of disease, children under three years of age with positive tuberculin tests, and older children who had become tuberculin positive within six months, as reported by Katharine H. K. Hsu in the annual report of the Children's Clinic, Jefferson Davis Hospital, Houston. Such a classification of children with active primary tuberculosis coincides with the criteria currently used in the PHS meningitis prophylaxis study and constitutes a valid basis, in many doctors' opinion, for treatment with antituberculosis drugs.

These unexpected areas of tuberculosis in Houston were uncovered by using a new approach to case finding. Similar unexpected areas of tuberculosis may be present in other cities.



Last year Robstown (see graph), a town in Texas of 8,000 population, was discovered to have a new TB case rate ten times greater than the rate for the state or for the county in which this town was located. Unfortunately, this was not a recent development but had been going on for years, the facts lying obscured in statistics that were collected and tabulated on a so-called county-wide basis. When the area was ultimately investigated, the astonishing figures were found to emanate largely from Spanish-speaking people who lived in overcrowded dwellings, had large families, and existed on meager wages. They led a life that favored the spread of tuberculosis among them, and to change this manner of living sufficiently to help eradicate their tuberculosis required diplomacy and carefully planned educational programs.

Often a clue to unexpected areas may be obtained from a glance at statistics compiled by state health departments. Recent figures reported from states in which tuberculosis has been declining and well controlled point out the need for constant vigilance. At the end of the first nine months in 1958, the Iowa Health Department reported a 52 per cent increase in the new case rate for tuberculosis compared with a similar period in 1957 (280 in 1957 and 425 in 1958). Of the 99 counties in the state of Iowa, some 53 showed increases, indicating a fairly widespread distribution. Similarly, the Michigan Health Department has recently indicated a cumulative increase of 17 per cent in the tuberculosis new case report for 1958 compared with last year.

It is both the heritage and the responsibility of tuberculosis associations to remain alert to all phases of tuberculosis control within their respective communities. Awareness of the fact that tuberculosis can and does occur in many unexpected areas is essential to the development of a proper attitude of vigilance. Reporting of such areas is important and is generally helpful to other tuberculosis workers who may unknowingly be confronted with the same problem.

Since the emphasis in tuberculosis case finding is tending toward screening groups of people, it is important that no groups be omitted among whom there is any possibility of finding a high prevalence of the disease. In some communities, the high-prevalence areas are to be found in the jails or skid row dwellings; in other places, in mental institutions or old folks homes. But in still other areas, the pattern in the fabric is different and can be recognized only after careful observation or study.

Finally, if the case-finding methods being used seem to indicate that tuberculosis is nicely controlled in your community, think about using some other methods and some different approaches. You, too, may find an unexpected area of tuberculosis.

The Forgotten TB Patient?

The institutionalized mentally ill patient with TB is too often overlooked in case-finding programs

A TB patient (foreground, back to camera) transferred from a mental hospital works with "normal" patients in the occupational therapy shop of a TB sanatorium.

By Kathryn Smick M.D.

Dr. Smick is director of tuberculosis control, Division of Mental Hygiene, Wisconsin State Department of Public Welfare, a position she has held since its creation in 1954. Formerly, she was on the staff of the Lake View Sanatorium, Madison, Wis., and of the Municipal Tuberculosis Sanitarium, Chicago.

We rarely hear anyone express concern about tuberculosis among the institutionalized mentally ill and defective at tuberculosis meetings, whether they be local or national. In years past, there were lengthy discussions of the special problem of TB in the diabetic, the silicotic, the pregnant woman, and various ethnic or racial groups. Later, the elderly residents of our communities became the targets of case finding. Now, finally, the alcoholic and vagrant, who occupy an increasing proportion of sanatorium beds, are the subjects of major emphasis.

Why, then, do we neglect the hospitalized mentally ill, probably the largest single reservoir of TB today? Are these people really so separated from society that they warrant no general concern? In Wisconsin, 5 to 7 per cent of the state's new active TB cases have been reported each year for the past three years from the mental institutions, which care for only 0.5 per cent of the state's population.

Why this disproportionate incidence of tuberculosis in the institutionalized mentally ill? The explanation lies in two epidemiological factors: (1) exposure to tuberculosis within mental institutions, and (2) the high incidence of tuberculosis among patients on admission to public mental institutions, ascribable to the fact that these patients often originate in the same social and economic classes and in the same age groups which contribute most heavily to TB morbidity generally.

When the TB problem in mental institutions is recognized, it is almost always assumed that great difficulties stand in the way of solution—difficulties related chiefly to the abnormal mentality of the patients and to the exceptional exposure within the close confinement of institutional life. The reluctance to attack the problem, and the slowness of progress toward a solution, certainly suggest that here are difficulties greater than those encountered elsewhere.

This is not necessarily true. Whatever difficulties exist are not inherent in the situation, but result almost solely from our long acceptance of a quality of general medical care for the institutionalized mentally ill that we would accept for few others in our society. The rationalization has been offered that mental hospitals are intended only for psychiatric and, let us

face it, custodial care; moreover, that they have neither staff nor funds to provide nonpsychiatric surgical and medical treatment.

Whatever the grounds for these limitations, the psychiatric patient is the victim. Legally committed, he has no recourse to medical care other than that provided by the institution of his confinement. Fortunately, there is a growing awareness of the medical needs of psychiatric patients, and substantial steps are being taken to expand medical care. The inevitable result will be more adequate attention to tuberculosis. But we cannot be idle while waiting for improved attitudes and programs. Tuberculosis control programs can be developed and expanded now with existing budgets and personnel if there is the will to cooperate and the ability to improvise.

In considering further the alleged difficulties of managing TB in the mentally ill, it may be worthwhile to recall some of the problems of TB control generally: the loss from follow-up of known or suspected cases of TB, the refusal of some patients to accept treatment, the problems of adjustment to the sanatorium, and the patients who leave the hospital against medical advice. Compare this to the situation in psychiatric institutions, where the population is captive. These psychosocial factors are nonexistent: committed patients cannot successfully refuse chest X-rays, diagnostic study, and treatment.

Generally speaking, the distribution of TB within mental institutions reflects TB distribution throughout a state. Wisconsin has no sizable metropolitan slum areas perpetuated by endemic poverty and the constant influx of laborers from areas of high TB prevalence to cause a high incidence of TB among young adult residents. Consequently, active TB is found infrequently in the young psychotic patient. In the three years 1955-1957, most of the active TB found in the mentally ill and defective was in elderly, long-hospitalized patients. (Of a total of 216 active cases, 42 per cent were patients over 60 years of age, and 60 per cent were patients institutionalized for over 10 years.)

So, the commonly pictured situation of the acutely disturbed patient whose mental illness plays havoc with his tuberculosis is in reality unusual. Indeed, the traits of excessive conformity and passivity, learned through years of hospitalization, facilitate the adjustment of a majority of tuberculous psychiatric patients to sanatoriums. Experience, then, demands the conclusion that mental institutions offer a uniquely advantageous situation for TB control.

July, 1954, saw the beginning of an organized state-wide TB program in the mental institutions of Wisconsin. Prior to this, there had been no coordination or broad planning of TB control activities, although Milwaukee County had developed its own program in 1940-1941 (see "Mental Hospital Program," NTA BULLETIN, February, 1954). Because this program is separate from that of the rest of the state, the Milwaukee County institutions are not referred to in the following report.

Mantoux Anniversary

The intradermal method of giving the tuberculin test was first reported 50 years ago. It was developed by Charles Mantoux, a native of Paris, who practiced medicine near Cannes, France. He published a paper on using the test on a group of children in 1908. The Mantoux test, as it is generally called today, is the method most generally favored in the United States for giving the tuberculin test.

It was impossible to estimate the prevalence of TB in Wisconsin mental institutions, due to the lack of records and a system of communication. The need for a centralized program was particularly obvious because Wisconsin, unlike any other state, cares for its long-term patients —who would elsewhere occupy the back wards of large state hospitals— in 35 small scattered county hospitals providing a homey atmosphere and minimal medical service.

The program as evolved covers 14,470 patients: 2,290 in three state hospitals, 3,267 in two state "colonies" for mental defectives, and 8,913 in the 35 county hospitals. Wisconsin has adhered to the usually accepted criteria for TB control in mental institutions, and it is unnecessary to outline the program from this approach. Of more significance is how the program developed and the extent to which it is the result of planning and organizing the use of existing facilities under central direction.

Among those concerned there was far from wholehearted confidence that the projected undertaking would succeed, especially in view of the degree of autonomy under which the institutions operated. Yet, during this four-year period, the State Division of Mental Hygiene enjoyed the cooperation of almost everyone officially concerned with TB control in Wisconsin, as well as of many others.

Of particular importance were the annual mobile-unit X-ray surveys of the State Board of Health. Locally, the sanatoriums gave invaluable assistance. They took chest X-rays, advised follow-up procedures, assisted in obtaining gastric aspirates, cultured specimens for tubercle bacilli, and accepted psychiatric patients for diagnostic study and/or treatment for TB. In other instances, general hospitals assumed the task of taking increasing numbers of chest X-rays. Radiologists, especially those with a sound orientation in tuberculosis, contributed much to the case-finding process, and have been indispensable to the TB program.

This state-wide cooperation did not emerge suddenly and completely. It was the result of months of interpreting the needs of the mental institutions, and was fostered and stimulated by early tangible accomplishments in TB control, as well as by the appreciation of those most directly concerned with the program.

The predicted resistance of the mental institutions themselves did not materialize; rather, the response was generally cooperative. After all, it does not take long to demonstrate that one can function better in an orderly than in a chaotic situation.

Before any plan of control could be formulated and maintained, it was necessary to accumulate and organize

the data relevant to tuberculosis in Wisconsin's mental institutions. A remarkably small expenditure of money made it possible to establish a TB case register, using a McBee card system. Pertinent data was recorded on all TB cases—active, inactive, and of undetermined activity, as well as on some undiagnosed and nontuberculous cases of pulmonary disease.

The register has been kept current by the use of various reporting forms which the many institutions send to the Division of Mental Hygiene. These forms have served as the basis for all reporting of TB in mental patients to the State Board of Health. At first, periodic solicitation of reports was routine; now much information arrives unrequested. However, where mental institutions depend on tuberculosis specialists who serve them only in a consultative capacity, the primary responsibility for initiating the transmittal of information must be with the state director of tuberculosis control.

Tuberculosis treatment, too, was influenced by state-wide planning. Criteria for admission and discharge of patients were established early. The number of beds occupied by the tuberculous mentally ill was reduced by half, from 233 to 111, in a four-year period. This was accomplished by clearing all transfers to and from the TB units through the office of the director of TB control, by consolidating treatment facilities into two tuberculosis hospitals, and by discharging from the TB units patients with inactive or noncommunicable TB to continue anti-TB medication in the regular mental hospital wards. The increased operating efficiency of treatment facilities made it possible to care for almost as many new active cases as formerly and also to divert the use of some beds to the diagnostic study of patients with suspected TB.

General epidemiological trends in tuberculosis and developments in the field of mental health will together determine the future of TB in mental institutions. In the past few years, the mental hospital environment has assumed an increasingly therapeutic quality as the attitudes of personnel have become more hopeful about mental illness, as the ratio of personnel to patients has increased, and as new drug and treatment techniques have become available. The role of the community has increased in importance with the development of outpatient clinics, of bridging devices between communities and hospitals, and of psychiatric facilities in general hospitals. The improved resources in psychiatric institutions are, and will long continue to be, felt in indirect proportion to the patients' length of hospitalization. It will be many years before the thousands of "chronic" patients are appreciably affected by improved medical and psychiatric facilities. These patients, who now constitute the main source of tuberculosis in the mentally ill, will continue to suffer relapses and to spread their tuberculosis; in short, they will continue to demand constant surveillance.

In view of these harsh facts, the Wisconsin experience suggests that the tuberculosis resources available throughout a state should be flexibly and imaginatively adapted to the needs of the mentally ill and that this can best be done through centralized direction and coordination of TB control activities.

American Trudeau Society Formula for Determining Irregular Discharge Rates

As in all statistical studies, the terms must be defined, and strict classifications observed so that reports from different institutions will be comparable. This formula is an effort to accomplish these purposes. Its use will help all hospitals to determine whether their irregular discharge rates are actually high or low, in comparison with rates of other institutions.

Obviously, the deduction of certain types of discharges from the number to be considered will result in higher percentage figures in the irregular discharge category. It is hoped that this formula will be widely adopted and used so that statistics in this regard will be comparable.

1. *Total* of discharged patients (dates) _____
2. Total deductions _____
   a. Deaths _____
   b. Non-TB discharges _____
   c. Transfers to other hospitals for continuation of TB treatment _____
   d. Discharges of patients admitted only for observation, diagnostic procedures, special examinations, or follow-up and for whom less than 30 days' hospitalization was anticipated by original intent. _____
   e. Discharges of court order patients from locked wards _____
3. Net TB discharges _____
4. Total irregular discharges _____
   a. AMA[1] _____
   b. AWOL[2] _____
   c. Disciplinary[3] _____
5. Per cent irregular discharges (item 4 ÷ 3 x 100) _____

The Veterans Administration is currently employing the identical formula for its statistical purposes.

[1]Patient announces his intentions to leave, completes the routine administrative and medical check-outs, and signs a hospital release form.
[2]Patient absconds without notice or fails to return from an authorized period of absence.
[3]Discharge through administrative action, usually for violation of rules and regulations.

Migrant workers at about 75 farms and six canneries were given X-rays and blood tests last summer through a program sponsored by the State Board of Health, the Delaware Anti-Tuberculosis Society, and the U.S. Public Health Service. When farmers or canners reported that they planned to hire migrant labor, a sanitarian appointed by the State Board of Health inspected the site for sanitary living conditions. Next, a team of technicians brought a mobile X-ray unit to the farm to make the tests. X-ray films were sent to the Delaware society for interpretation, and blood tests were processed by the Board of Health. Not only workers but also the families accompanying them were given the tests; children under 15 received the blood tests only.

The first X-ray demonstration in a house of detention in the East took place last year when the Brooklyn (N.Y.) Tuberculosis and Health Association, with the cooperation of the New York City Departments of Health and Corrections, sponsored a six-month survey at the Raymond Street Jail, in Brooklyn. Of 3,208 jail admissions during this period, 1,809 were X-rayed. A total of 21 active cases of tuberculosis was discovered, or 11.6 per 1,000 prisoners X-rayed. Prisoners who said they had been X-rayed within the previous six months, and those who refused the service, were not X-rayed. Where the inmate was available and the X-ray findings warranted, he was immediately transferred to Rikers Island Prison Hospital. There, final diagnoses were made and treatment initiated where necessary. On release from prison, the respective patients were referred to city hospitals, chest clinics, or other medical facilities. Here, Brooklyn postmaster Edward J. Quigley, Christmas Seal chairman of the Brooklyn association, discusses X-rays with the warden.

Hundreds of persons jammed the White Bear National Guard Armory, in White Bear Lake, Minn., when the Ramsey County Tuberculosis and Health Association and local women's organizations sponsored a community-wide tuberculin-testing program. To get the program under way, several hundred volunteers were oriented on the Mantoux test by a chest specialist. They then made a house-to-house canvass throughout the area, registering entire families and stressing the importance of signing up preschool children and the older age group. Local doctors volunteered to administer and read the tests. Tests were read at the armory two days after testing, and all reactors were offered follow-up X-rays at the association's headquarters. Of 4,724 citizens tested, 638 were reactors.

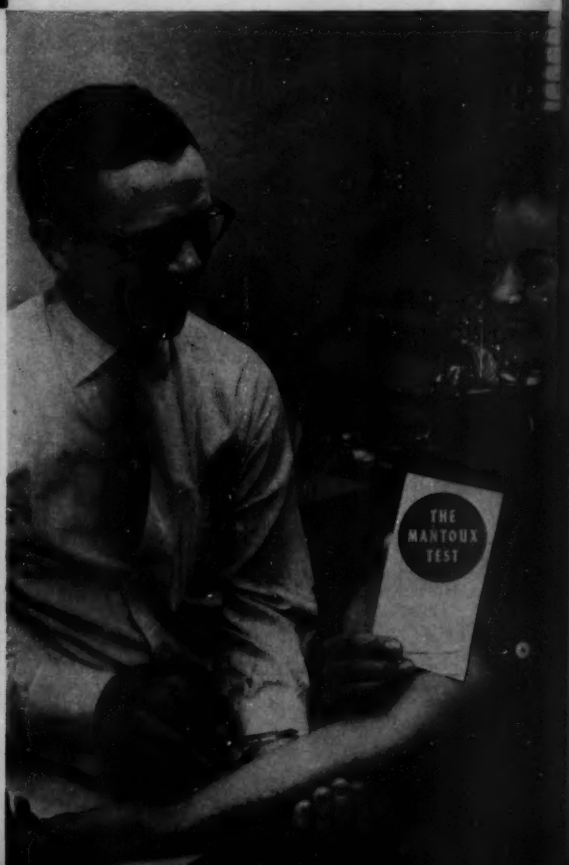
A 50-bed hospital was created at the Cook County Jail, Chicago, Ill., this year when a basement of the jail, formerly used as a dormitory, was converted into a 24-bed isolation ward for tuberculosis patients, a 22-bed general ward, and a 4-bed contagious disease ward. The hospital is fully equipped with operating room, X-ray room, receiving ward, oxygen equipment, and dental laboratory. Although a chest X-ray service has been maintained at the jail since 1955 by the Tuberculosis Institute of Chicago and Cook County, the Municipal Tuberculosis Sanitarium, the U. S. Public Health Service, and the Oak Forest Institutions, the new facilities will be more adequate for diagnosis and treatment of prisoners, who have a TB rate 10 times higher than the general population's. Here, the Chicago tuberculosis institute's medical director, Dr. Julius Novak, examines a tuberculosis patient while Sheriff Joseph D. Lohman looks on.

Because of the technical difficulties involved in X-raying nursing home patients, the Oregon Tuberculosis and Health Association and the Oregon State Board of Health initiated a program of sputum examinations in 1957. Since then, the state has approved a regulation requiring sputum examination as part of the entrance requirement in Oregon's 180 nursing homes. Dr. William Levin (right), former director of the public health laboratory section of the Board of Health, and bacteriologist Lillian Hoesly demonstrate how sputum records are kept to OTHA case-finding director M. Donald Harman. As of June, 1958, 1,500 sputums had been submitted, 997 cultures had been completed, and 22 cultures had proved positive. Of the positive cultures, 2 revealed active TB; 3, previously known TB; and 17 had not yet been determined.

When the Tuberculosis Society of Columbus and Franklin County (Ohio) found itself with an available 4" by 5" X-ray unit, it persuaded the police department to use the unit on loan. The association bought the film, trained police personnel to take the film, and arranged for a county clinic to do developing, reading, and follow-up. This program was taken over a year later by an Industrial Health Committee created by the City Council. As a result of the total program, an isolation unit has been established at the city workhouse (right) to house TB patients given workhouse sentences and recalcitrants.

Believed to be the first of its kind in the country, a continuous X-ray program has been set up at the Milwaukee Rescue Mission, in the heart of the city's skid row area. The mission houses approximately 300 men a day, with an average daily turnover of 10 per cent. Initially, all residents and workers at the mission received a chest X-ray; since then, all new men who have not been X-rayed within six months have been X-rayed as a routine admission procedure. The General Electric Company supplied and installed the X-ray equipment; the Wisconsin Anti-Tuberculosis Association bought the first year's supply of X-ray film and reads the films; and the Milwaukee Health Department does follow-up studies and arranges for hospitalization of active cases. The picture at left shows the unveiling of the equipment last year.

The first firm to take advantage of a combination tuberculin-testing and X-ray program offered by the District of Columbia Tuberculosis Association to commercial firms in Washington, D. C., was the Kiplinger Washington Editors, publisher of the Kiplinger Newsletter. The firm has approximately 400 employees. On the first day of the three-day survey, all employees under 40 were tuberculin tested. Two days later, the team returned and read the tests. On the following day, all positive reactors (about 20 per cent) were X-rayed, together with all employees over 40. Here, a Department of Public Health physician administers the test to one of the employees. The firm has indicated it would like to use the survey annually, and several other firms have since requested the service.



Diagnosis of many lung diseases can be speeded by . . .

PULMONARY BIOPSIES

By Peter A. Theodos, M.D.

Dr. Theodos is assistant professor of clinical medicine, Jefferson Medical College, Philadelphia, Pa., and visiting physician, Department of Chronic Pulmonary Disease, Philadelphia General Hospital. He is a past president of the Pennsylvania Trudeau Society and a member of the board of directors of the Philadelphia Tuberculosis and Health Association. Dr. Theodos received his medical degree from Jefferson Medical College. His article was solicited by the Committee on Medical and Public Relations of the American Trudeau Society.

THE diagnosis of diffuse infiltrative pulmonary disease always presents a challenging and urgent problem. The increasing number of such cases discovered through mass and routine chest X-rays has accentuated the problem. At present, about 80 known conditions can produce diffuse disseminated pulmonary disease, many of them asymptomatic. Since management of the individual case will depend to a large extent upon the nature of the disease process, it is essential that the correct diagnosis be made as soon as possible.

Evaluation should be done systematically, proceeding from the time-honored history and physical examination to certain basic routine laboratory procedures, which may include skin tests, blood studies, bacteriological and cytological examinations. If the diagnosis is not readily apparent at this point, the problem then becomes one of deciding how many additional examinations to do and whether to continue the study, utilizing procedures such as bronchoscopy and peripheral-node and bone-marrow biopsies.

New Techniques

The use of these methods can be time-consuming and expensive, and may not result in a definitive diagnosis. Symptoms and physical findings may simply indicate the location, but not the nature, of the involvement, and laboratory studies may not be helpful. Because of these inadequacies, techniques developed in recent years for biopsy of the lung have had increased use.

To be of value, a biopsy procedure must provide minimal hazard to the patient, be economically feasible, and provide an adequate piece of lung tissue for study. Three major types of pulmonary biopsy are currently in vogue: needle aspiration biopsy, exploratory thoracotomy, and localized intercostal biopsy.

Needle aspiration biopsy is contraindicated for diffuse pulmonary infiltrations; it is too hazardous in such cases, and the amount of tissue obtained is frequently insufficient to permit adequate histological, bacteriological, or chemical study. It has its greatest use in localized disease, particularly solitary tumors located peripherally, where a formal exploratory operation is contraindicated. Even in such cases it should not be attempted if the lesion is close to vital structures, where penetration may cause serious damage, or in areas where branches of the pulmonary artery may be injured. It is particularly hazardous where emphysema is a major component of the disease process, especially where cysts or blebs are present. The danger of seeding tumor cells along the needle tract is also a real one, but this can be minimized by proper technique.

Improved methods of surgery and anesthesia have made exploratory thoracotomy a relatively safe procedure, but it still requires a large incision, is time-consuming, and carries considerable postoperative morbidity. It has the advantage, however, of permitting a detailed inspection of the pleural cavity and the lung and the obtaining of a specific and adequate piece of lung tissue for study. It has its greatest application when the lesions are localized or where the question of neoplasm is a major one. It is less desirable where diffuse infiltrative disease is present. It is also not feasible in patients with pulmo-

nary insufficiency where any further decrease in the pulmonary reserve would be dangerous.

Localized intercostal biopsy of the type introduced by Karl Klassen, M.D., of Ohio University, and his coworkers offers definite advantages. The incision is much smaller, does not require resection of a rib, and allows the surgeon to obtain a representative specimen of lung tissue under direct visualization. It can be done safely even in patients who are respiratory or cardiac cripples.

Local infiltrative anesthesia is generally used, although some surgeons prefer the use of an endotracheal tube. In such cases, general anesthesia with nitrous oxide and oxygen is used, supplemented by intravenous sodium pentothal.

The usual site of biopsy is the fourth anterior interspace because of its greater width. Neither cartilage nor rib is removed. As the pleura is opened, the lung is kept expanded by positive pressure oxygen given through a snugly fitting mask. As the lung herniates through the incision, the surgeon removes one or more pieces of tissue by any of a number of techniques. Closure of the pleural space is usually done with a small rubber catheter in place. After withdrawal of all of the air, the catheter is removed. If leakage of air from the biopsy site is anticipated, the catheter is allowed to remain in the pleural space and is attached to an underwater seal until the lung is completely expanded.

The effectiveness and ease of this type of biopsy has decreased the importance of scalene node biopsy in diffuse pulmonary disease. However, this procedure still has a place in suspected intrapulmonary malignancy. Neoplastic involvement of the scalene lymph nodes will establish the diagnosis and indicates a nonresectable state.

Some Limitations

Lung biopsy is of greatest value in those conditions where a well-defined pathological entity—such as pneumoconiosis, sarcoidosis, tuberculosis, fungus disease, or metastatic malignancy — is present. In such cases, obtaining a piece of tissue for histological study is generally all that is required, since the pathological picture is sufficiently well defined to permit accurate diagnosis. Its usefulness, however, is limited in those situations where nonspecific changes, such as "fibrosis" or "pneumonitis," are present. Here an accurate specific diagnosis may not be obtained. This is to be expected, since the nature of some pulmonary changes defy diagnosis even at the necropsy table. In addition, where emphysema is a major factor, the pathological processes may be located too centrally to be reached by a peripheral biopsy.

In a series of 145 consecutive biopsies done at the Barton Memorial Division of the Jefferson Hospital, Philadelphia, in the past six years, a specific diagnosis was possible in 68 cases, or 47 per cent. The findings in the remaining 53 per cent did not permit a specific diagnosis and gave rise to such interpretations as "nonspecific fibrosis," "chronic inflammation," and "anthracosis."

The yield from lung biopsy is greatly enhanced by detailed attention to the biopsy specimen both by the surgeon and the pathologist. The surgeon must see that an adequate and representative piece of tissue is obtained and that it is delivered promptly to the laboratory. The pathologist, in turn, must know something of the case history.

The gross specimen should be carefully examined and divided into the required number of pieces for histological study, smears and cultures for acid-fast bacilli, fungi, and other organisms, microincineration, and spectophotometry. Histological differentiation between various entities is sometimes difficult, and reports such as the following are not uncommon: "lung tissue with granulomatous inflammation compatible with tuberculosis, sarcoid, or early silicosis," or "diffuse chronic interstitial inflammation—compatible with beryllium, pneumoconiosis, or chemical pneumonitis."

In some cases, definitive diagnosis will depend on repeat biopsies on the same patient. The specimen obtained on the first biopsy may not have been adequate or representative or may not have been examined properly or in sufficient detail in the laboratory.

In the Barton series of cases referred to above, four patients had repeat biopsies, and diagnosis was established in three, including a case of adenocarcinoma, one of anthracosilicosis, and one of pulmonary alveolar proteinosis.

Lung biopsy has obvious advantages in medico-legal problems where the relationship of roentgenographic changes to industrial dust exposure is a matter of opinion. It is true that there are borderline states where the findings on biopsy are equivocal and pathologists differ in their opinions.

REPORT on EM

■ One of the most compelling problems in medicine today is the alleviation of shortness of breath. Certainly the most common pulmonary cause of this distressing and often disabling symptom is diffuse obstructive emphysema, a disease chiefly of middle-aged men, most of whom are heavy cigarette smokers who have coughed for years. The disease goes under a variety of names, including "asthma" and chronic bronchitis, in England, where it is one of the commonest causes of disability. Although recognized by physicians since the early 1800's, little is known regarding the underlying cause or the manner and means by which it develops and progresses.

With these problems in mind, the Colorado Tuberculosis Association, the Colorado Trudeau Society, the University of Colorado School of Medicine, the Colorado Foundation for Research in Tuberculosis, the National Tuberculosis Association, and the American Trudeau Society jointly sponsored a Conference on Research in Emphysema in Aspen, Colorado, June 13-15, 1958. More than 120 participants from the United States, Canada, and Australia were present. The group included clinicians, anatomists, pathologists, physiologists,

However, the appearance of typical silicosis, asbestosis, siderosis, and berylliosis offers very little difficulty in diagnosis. Occasionally, the industrial history may be misleading and the biopsy may reveal some other disease process as the cause of the diffuse process.

Used early in the diagnostic work-up, lung biopsy can eliminate the need for prolonged hospitalization and intensive diagnostic procedures. The average biopsy requires not more than five days of hospitalization.

Specific treatment can be started promptly in some cases by recourse to early biopsy. This is particularly true in miliary tuberculosis, where the diagnosis by bacteriological means is often difficult and delayed. Similarly, establishing the correct diagnosis of sarcoid may avoid prolonged and costly treatment for tuberculosis. Ruling out the presence of a pneumoconiosis may permit return of a worker to his usual occupation.

Localized intercostal biopsy is well tolerated even in cases of severe respiratory insufficiency. It is essential to individualize each case, and routine preoperative and postoperative orders must be avoided. Subcutaneous emphysema, marginal pneumothorax, and local parenchymal reaction at the site of biopsy may occur, but these usually subside spontaneously. Dissemination of infection has not been reported.

In summary, localized intercostal lung biopsy is a valuable adjunct in the diagnosis of diffuse infiltrative pulmonary disease. It should be used early in the diagnostic work-up to avoid unnecessary delay, expense, and prolonged hospitalization. In about half of the cases, it can be expected to provide a definitive diagnosis with very little risk of complications.

EMPHYSEMA CONFERENCE

By George Bower, M.D.

Teaching Fellow, American Trudeau Society, University of Colorado Medical Center, Denver, Colo.

physicists, radiologists, surgeons, and veterinarians; some 57 received assistance from tuberculosis associations, universities, or federal agencies.

The general purpose of the conference was to exchange information on available knowledge and lack of knowledge of the disease; secondly, to clarify terminology and to agree upon techniques for study of the disease; and finally, to define profitable areas of investigation.

The Normal Lung

A clear understanding of any disease process requires a knowledge of the normal structure of the involved organ. Consequently, considerable emphasis was given to anatomic studies of the lung: the development of that organ and in particular of the elastic tissues that form a sponge-like framework throughout it; the changes in these tissues and others, such as blood vessels and lymphatics, with disease; and the interrelationship between anatomical structures and physiological functions.

Much recent knowledge of emphysema has stemmed from new techniques for studying the structure of the lung. Thus, through the examination of large, full-size, paper-thin sections of the lung and special X-ray studies of thin lung slices, the clinical and physiological data can be related to the type and extent of disease.

Work relating to theoretical aspects of flow of air through the bronchial tubes, both in normals and in persons with emphysema, was presented. Emphysema (derived from the Greek word meaning "blown into" and literally showing this by lungs that are overly inflated) is characterized by an increased resistance to flow of air through the lungs. It is this abnormality that contributes to the origin of the chief symptom of the illness, shortness of breath. The cause of the increased resistance to air flow is related to a number of factors, including elastic tissue changes which make the lung less stretchy, thus requiring active effort during the expiratory phase of breathing. Pressure phenomena during expiration contribute to an abnormal degree of narrowing of the bronchial tubes in emphysema, sometimes to the point of closure.

The need for a suitable experimental animal in which the disease can be produced was stressed. Reports indicated that it might be possible to produce emphysema by a partial obstruction of a bronchus, or by immunological methods that would cause the animal to react against and literally destroy his own lung tissue.

The horse with "heaves," a counterpart of human emphysema, was reported on. In the horse, the disease appears to be related to the ingestion of moldy or dusty feed, suggesting the possibility of allergenic factors.

Studies Needed

Epidemiological studies to determine the extent and incidence of emphysema in the U.S. are needed. Further, it is important to find out which elements of the population are affected, and to determine the relationship of infection in the bronchial tree and smoking to the causation or aggravation of the disease. Cooperative studies are being planned, so that information about patients in widely scattered centers can be pooled. The genetic aspects of emphysema were suggested as possible rewarding avenues of study, since it is known that chronic bronchitis in England often tends to run in families.

The treatment of this chronic and frequently disabling disease is at present chiefly symptomatic and palliative. A great deal more basic research is needed before any type of control of the disease can be attained.

SEX and MORTALITY

Workers in the tuberculosis field generally know that for every two women who die of tuberculosis each year, five men may be counted upon to do the same. It may be of interest that the widening difference between male and female mortality in tuberculosis is in keeping with the general mortality trend throughout the nation.

In the December, 1957, issue of *Progress in Health Services,* published by the Health Information Foundation, it was noted that the mortality differential between the sexes is now wider than at any time in the history of the United States. The article goes on to point out that since 1950, the yearly excess of male over female deaths has been more than 200,000 persons. Already there are 7,700,000 widows in our population, and the number is expected to rise sharply in the years ahead.

Males have a less favorable survival record than females at any specific age, but in recent years the differential has widened considerably in all age groups except infancy and those 85 and over. Among all the major causes of death today, accidents cause by far the greatest excess of male over female mortality. Male deaths from accidental causes alone account for over four-fifths of the excess toll at ages 10 to 24 and for nearly three-fourths at ages 25 to 34. Nevertheless, even if accidental deaths could be eliminated, the excess male mortality would still be considerable.

The trend toward increased proportions of male over female deaths has been less widespread among nonwhites than among the white population. Also, excess of male deaths increases as city size increases. Excess male mortality is highest in the professional occupations and lowest for skilled, semiskilled, and unskilled occupations.

From the viewpoint of public health, the mortality-differential trend has been associated with a shift in leading causes of death from communicable diseases to degenerative diseases, and from lower to higher standards of living. Until very recently, in countries where living standards are low and medical care minimal, there was an excess of female mortality, partly because of the severe hazards attending childbirth. Improvement in living conditions, changes in disease patterns, declining mortality, and other factors give women an increasingly favorable place in the over-all health picture. It is interesting to note that women tend to consult physicians more regularly than do men (even after excluding visits related to childbirth care).

There is no simple explanation of why women live longer than men. But it is obviously important for medical science (as well as for men and women) to find ways of explaining and of overcoming this serious imbalance.

BOOKS

Public Health and Welfare. The Citizens' Responsibility—Selected Papers of Homer Folks. **Edited by Savel Zimand. The Macmillan Company, 1958. 475 pages. $7.00.**

"Statesman in public health and welfare" is the description aptly applied to Homer Folks by the Hon. Herbert H. Lehman, ex-Governor of New York. Beginning in 1893, when Mr. Folks became secretary of the State Charities Aid Association, of New York, he wielded an enormous influence, nationally and even beyond, in the fields of welfare and public health. When the SCAA began a vigorous campaign against tuberculosis in 1907, Folks soon became widely known for his writings on the significance of tuberculosis as the major health problem of the United States.

In 1912 he was elected president of the National Tuberculosis Association, the first nonmedical man to hold the office. From 1915 to 1925, when associations and institutions in the tuberculosis field were growing so rapidly, the NTA, recognizing that the Folks papers presented powerful arguments for the development of a well-rounded program, distributed thousands of copies.

The present volume carries seven of his many papers on tuberculosis, all meticulously prepared. Other fields covered in this book include child care, probation, legislation, hospitals, mental health, venereal disease, the aged, and the human costs of war. Many of these papers have a timeless quality, and Mr. Zimand and the SCAA are to be complimented for preserving them for public health workers of the present and the future.—F. H.

The Chemistry and Chemotherapy of Tuberculosis **(third edition). By Esmond R. Long, M.D. The Williams and Wilkins Company. 414 pages. $12.00.**

Originally published in 1923 as *The Chemistry of Tuberculosis* under the authorship of H. Gideon Wells, Lydia M. DeWitt, and Dr. Long, and revised in 1932 with the same title under the authorship of Dr. Wells and Dr. Long, the book has been rewritten and brought up to date to reflect the changes brought about in the chemical aspects of tuberculosis by the advent of chemical agents in the treatment of the disease. Dr. Long was formerly director of medical research of the National Tuberculosis Association.

The third edition will undoubtedly become the classic reference book that its predecessors were.

BULLETIN BRIEFS

To find out **why some tuberculosis patients leave the hospital against medical advice,** the New Haven Area (Conn.) Tuberculosis and Health Association is financing a research study at Veterans Administration hospitals throughout the country.

The project, to be conducted by Seymour Warkov, a Yale University researcher, will cover four phases:

1. A statistical analysis of all information presently available on the subject.
2. Visits to selected VA hospitals in the East.
3. Detailed observations and depth interviews at the West Haven (Conn.) VA Hospital.
4. A questionnaire to all other VA hospitals not visited.

Previous studies of the recalcitrant patient have been confined to individual hospitals. The present study is the first to seek comparative information on a group of institutions operating under similar procedures.

Ambulances from five Knox County, Ind., funeral homes recently took patients from the Vincennes Nursing Home to Hillcrest Hospital for chest X-rays. This was the first in a series of **nursing home surveys** being conducted by the Knox County Tuberculosis Association, with the approval of the Knox County Medical Society and the city-county health officer. Attendants for the transported patients were furnished by the nursing home; Mrs. Hugh Gutteridge, executive secretary of the association, kept the records.

All admissions at Mankato State College, Minn., received **Mantoux tuberculin tests** this fall as an integral part of the student health examination. The testing was sponsored by the Blue Earth County (Minn.) Tuberculosis Association, who also sponsored similar programs earlier in the year at Gustavus Adolphus College and the North Central School of Agriculture.

A new hospital at Scott Air Force Base, Illinois, has been designated a **tuberculosis treatment center** by the U.S. Air Force. The hospital has a constructed capacity of 250 beds, of which 90 are allotted to tuberculosis. Complete medical and surgical facilities are available, including thoracic surgery and a pulmonary function laboratory.

The Howell County (Mo.) Tuberculosis Association has established a new **student nurse scholarship,** in memory of Herbert L. Mantz, M.D., former president of the National Tuberculosis Association, who died in 1953. The first recipient, Miss Karen Tompkins, will receive $450, in three yearly installments.

An in-service teacher-training program for elementary-school teachers was offered at Huston-Tillotson College, Austin, Tex., last July under the joint sponsorship of the Texas Tuberculosis Association and the Prairie View A & M College. Principal courses offered were in health education and the education of the exceptional child. A work conference on tuberculosis gave basic information on the disease, the development and the purposes of the tuberculosis association, and the ways in which teachers can help in tuberculosis control. Seven local tuberculosis associations provided scholarships for 17 of the 30 teachers attending.

A Guide to Work Conferences on Tuberculosis Nursing for Graduate Nurses is a revision of a report based on a conference held in 1950 and has been issued to bring nurses up to date on the profound changes that have taken place since then in the treatment of tuberculosis. It is available free from the Tuberculosis Nursing Advisory Service of the National League for Nursing, 2 Park Ave., New York 16, N.Y.

What Are You Teaching About Tuberculosis? is a 24-page guide to help nurses in the Los Angeles area provide accurate, consistent, and continuous education about TB to the patient, his family, and the community. Prepared by the Interorganization Committee on Tuberculosis Nursing of the California League for Nursing and the Los Angeles County Tuberculosis and Health Association, the booklet is available for $.20 a copy from the California Tuberculosis and Health Association, 130 Hayes St., San Francisco 2, Calif.

A bear that not only talks, but talks sense, has been added to the **health education** staff of the Erie County (Pa.) Health and Tuberculosis Association. Mounted on a spring arm that can rock back and forth, the bear has a zippered back through which can be reached its internal "organs": a five-inch speaker and a mercury switch. When someone pushes the bear, the mercury switch makes contact with a tape recorder placed behind the bear and starts the recorder's motor. The message on the recorder can be changed to suit special groups—schools, conferences, X-ray units, etc. The total cost to construct, outside of the recorder, was $150.

NTA Board Committees

. . . their purpose and functions

Annual Meeting Program Committee

The place: The Palmer House Chicago, Ill.
The time: Monday, May 25, 1959
The occasion: The opening session of the 55th Annual Meeting of the National Tuberculosis Association.

With this session, the curtain will rise on four days of meetings which are one of the highlights of the voluntary tuberculosis associations' yearly activities.

Who and what is behind the NTA Annual Meeting? Who makes the plans, schedules the programs, determines the nature and order of events, and arranges related activities? As with most NTA activities, committees do the work. Certainly one of the most important and hard-working NTA committees is the Annual Meeting Program Committee.

The General Committee, consisting of nine members, is appointed by the president. Included on the General Committee are the chairmen of five subcommittees. Each of these five subcommittees is responsible for initiating and planning programs of interest within its field. The subcommittees are Medical Sessions, Public Health Sessions, Nursing Sessions, Exhibits, and Local Arrangements.

The Annual Meeting Program Committee and the subcommittees are appointed approximately 15 months in advance of any given Annual Meeting. The committee holds its first meeting at the close of the preceding Annual Meeting, at which time general plans are made and dates are set for an early fall meeting to be held at the site of next year's Annual Meeting. At the fall meeting, each of the subcommittees meets separately to discuss and plan program content for its respective area. Following the subcommittee meeting, the General Committee meets to coordinate the many sessions into the over-all program.

At this General Program Committee meeting, plans are made for general sessions, joint sessions, and special events, and facilities for exhibits and for the various sessions are reviewed. Plans are also presented by the Local Arrangements Committee for functions of a special nature.

Members serving both the General Committee and the subcommittees are selected with special regard for the responsibilities and functions assigned to them and for proper regional and agency representation.

All plans, actions, and decisions of the subcommittees are subject to review by, and shaped to accord with, the actions and decisions of the General Committee. Before subcommittee recommendations are carried out, they must, in effect, win the endorsement of the General Committee. Following the fall meeting of the committee, each of the subcommittees is responsible for securing participants for the various Annual Meeting sessions. Participants, of course, are selected on the basis of leadership and outstanding qualifications in their respective fields as these fields relate to the content of the Annual Meeting program. The General Committee selects outstanding speakers for the opening session and for the NTA annual luncheon.

Approximately 500 individuals participate in the various sessions of the NTA Annual Meeting.

The NTA Annual Meeting serves many purposes, not the least of which is to make an impact upon the American public. The latest advances in scientific and medical achievement are reported in the public press, and the work of the various constituent and affiliated associations is presented at a national level. The Annual Meeting affords an opportunity for all persons and all disciplines interested in tuberculosis control to share ideas and exchange the latest information on tuberculosis control.

The chairmen and the other members of the present Annual Meeting committees were announced in the November BULLETIN.

TUBERCULOSIS DEATHS AND DEATH RATES PER 100,000 POPULATION FOR U.S. CITIES OF 500,000 POPULATION AND OVER, 1953-1956

Cities	1956		1955		1954		1953	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
New York	1,037	12.9	1,126	14.1	1,137	14.1	1,308	16.3
Chicago	539	14.1	629	16.7	708	19.1	808	22.0
Philadelphia	362	16.7	438	20.3	402	18.8	579	27.4
Los Angeles	205	9.0	245	11.9	243	11.4	323	15.3
Detroit	255	13.2	231	12.0	261	13.6	300	15.6
Baltimore	190	19.5	178	18.3	199	20.6	268	27.8
Cleveland	129	13.6	117	12.4	163	17.5	195	21.1
St. Louis	134	15.3	122	14.0	169	19.5	186	21.4
Washington, D.C.	132	15.9	128	15.5	123	14.3	172	20.5
Boston	162	21.5	173	22.1	196	24.3	216	26.9
San Francisco	96	11.9	118	14.6	109	13.5	151	18.8
Pittsburgh	101	14.9	117	17.3	122	18.1	144	21.3
Milwaukee	46	6.4	46	6.5	64	9.5	75	11.6
Houston	106	14.6	102	14.2	97	13.9	116	17.1
New Orleans	98	15.4	101	16.2	116	18.9	148	24.7
Buffalo	71	11.8	72	12.2	74	12.7	113	19.5
Minneapolis	31	5.7	33	6.2	28	5.3	65	12.3
Cincinnati	82	15.3	74	14.1	80	15.4	120	23.3

Source: Public Health Service

SCIENTISTS AT WORK

Once upon a time, a young woman recently graduated from Johns Hopkins University Medical School sought to combine two professional interests and devote her life to the study of tuberculosis in children.

She sought the advice of a leading phthisiologist of the day.

"Don't do it," said he. "Tuberculosis in children is a dead end."

Forty-two years have passed since then, and, fortunately for children the world over, she did not take that advice.

Edith M. Lincoln, M.D., has had some 2,500 children with tuberculosis under her supervision during her medical career; she has profoundly influenced, through her teaching and writing, the treatment of tuberculosis in children here and abroad; and she has obtained results in treating tuberculosis in her young patients that have set standards for others to strive to emulate.

One reason for her success has been that she understands children and understands tuberculosis and knows how to adapt her knowledge of the one to the care of the other. And her understanding of the disease has been deepened by two long-range studies carried on with the aid of Christmas Seal grants from the National Tuberculosis Association and the American Trudeau Society.

After two years on the Pediatrics Service of Bellevue Hospital, New York City, Dr. Lincoln in 1922 was asked to open the Chest Service for children. She remained in charge of it until her retirement in 1956, but even since then she has continued her studies of childhood tuberculosis.

Her clinic experience convinced her of the need to find out what happened later in life to children who had primary tuberculosis early in life. She therefore decided to attempt to follow until they were 25, with annual chest X-rays if possible, 1,000 boys and girls diagnosed at Bellevue as having first-infection tuberculosis. The study was started in 1930, and by 1940 she had 1,000 consecutive cases. But no funds were available to enable her to keep track of the youngsters.

Dr. Lincoln turned to the NTA and was awarded a medical research grant. The grant has since been renewed annually* and has made it possible to follow up the survivors of the 1,000 cases (20 per cent have died from various causes, including war injuries) and to start another study.

The 1,000 children were entered in the study before the era of drug treatment, and their histories brought valuable information on the *natural* course of primary tuberculosis. Among other facts, the study has brought out that the dangerous age for children who have had tuberculosis is the age of adolescence—that it is at this period, with its extra stresses and strains, that the adult type of tuberculosis is most apt to develop.

After drugs became available—and Dr. Lincoln began treating her children with promizole in 1944, even though this drug was not found successful in adults—she began another study to follow the outcome of tuberculosis in children treated with drugs.

Both of these studies are still under way and are revealing comparative data that will be invaluable in understanding better the long-range influence of drugs on tuberculosis.

The detective work in tracking down the teen-agers and young men and women who had been treated at Bellevue as young children is carried on by Dr. Lincoln's assistant, Miss Lucille Rung, who has become a Miss Hawkshaw at finding out what Susie Smith's married name is; at locating former New Yorkers in Puerto Rico, the Virgin Islands, or Mexico, as well as any of the 49 states; at discovering which branch of the Armed Forces John Jones joined; and at persuading the young men and women to get a chest X-ray at the age of 25 to check them out of the study.

Frequently, the light burns far into the night in the office at Bellevue where Dr. Lincoln and Miss Rung work over the records of the hundreds of children whose histories are revealing facts that will help make it possible to bring the story of tuberculosis in children to a happy ending.
—A.S.F.

* Contributions to this study have been made by 21 Connecticut tuberculosis associations, the Delaware Anti-Tuberculosis Society, and the Lancaster County (S.C.) Tuberculosis Association.

Dr. Edith Lincoln with one of her 2,500 children.

INDEX

BULLETIN OF THE NATIONAL TUBERCULOSIS ASSOCIATION

Volume 44 — Year 1958

January, pages 1-16
February, pages 17-32
March, pages 33-48
April, pages 49-64
May, pages 65-80
June, pages 81-96
July, pages 97-112
September, pages 113-128
October, pages 129-144
November, pages 145-160
December, pages 161-180

A

Achelpohl, R. E. Jr., Tuberculin testing in Topeka, 122
Adolescence, tuberculosis in, 7
Aged, national advisory committee on chronic illness and health of, appointed, 78
Air pollution, hazards of (Eliassen), 109
Alan Gregg fund, established, 31
American Trudeau society, discussion of statement on vacant TB beds, 13; officers (1958), 104; officers (1959), 105
American Trudeau Society statement, on antimicrobial therapy, 142; on BCG, 126; on home care, 142; Formula for determining irregular discharge rates, 167
Annual meeting preview, 35
Antibiotics, kanamycin, report on, 4
Antimicrobial therapy, statement on, 142

B

Bates, J. H., resignation of, 32
BCG, risks and values of, 2; statement on, 126
Becque, W., appointment of, 127
Bell, J. C., report of work of, 79
Benjamin Franklin tuberculosis hospital (Ohio), TV programs in for patients, 15
Benson, L., retirement of, 127
Biddle, J. H., The NTA annual meeting: stimulus to programs and to people, 34
Boards of directors, responsibilities of members of, 3

Books

Bolyard, R. H., appointment of, 112
Long, E. R., Chemistry and chemotherapy of tuberculosis, 174
Ziemand, S., Public health and welfare, 174
Boucot, K. R., Can we find lung cancer while it is curable?, 133
Bovine tuberculin test, The (Dodd), 55
Bower, G., Report on emphysema conference, 173

Briefs:

Guide on personnel policies for employers of public health nurses, 76; Guide to work conferences on TB nursing, 175; National council on alcoholism annual conference 1957, 76; PHS grants for nurses, 127; Public exposure to ionizing radiations, 127; Rebuilding human lives: the rehabilitation of the handicapped, part 1, 76; Report of seminar on administration in public health nursing, 76; What are you teaching about tuberculosis? 175
Brough, F. K., appointment of, 80
Brown, C., Our immigration laws need changing, 9
Browning, R. H., How can we promote medical education?, 19

C

Calden, G., and Greenwood, V. J., Green suit day, 23
Can we find lung cancer while it is curable? (Boucot), 133
Carling, J. G., resignation of, 80
Ceylon national association for the prevention of tuberculosis, formed, 28
Challenges in the federal welfare budget (Cohen), 71
Chapman, J. S., Chronic bronchitis, 107
Chemotherapy, clinical trials on verazide reported, 14; kanamycin, report on, 4
Christie, Amos, receives John Phillips Memorial Award, 24
Christmas Seal stars, 154
Chronic bronchitis (Chapman), 107
Cohen, W. J., Challenges in the federal welfare budget, 71
Colorado chest conference, 10
Currie, V. A., Responsibilities of staff, 5

D

Daggett, E. L., Tuberculin testing today: the California program, 54
Disabled older worker (Pinner), 25
Dodd, P. S., The bovine tuberculin test, 55
Douglas, M. H., Teaching communicable disease nursing, 62
Dorsch, G., Joint planning pays off, 11
Drug therapy *see* Chemotherapy.

E

Editorials:

Balancing risks and values (Perkins), 2
Inspiration, education, and hospitality (Perkins), 66
Medical education: cornerstone of TB control (Tucker), 18
NTA annual meeting: stimulus to programs and to people, The (Biddle), 34
Needed: eyes to find tomorrow (Fischer), 98
1958 Christmas Seal Sale: Time out to remember, The (Leman), 162
Realistic look at the medical X-ray, A (Sprunt), 130
Testing the tuberculin test (Feldmann), 50
Value of basic research, The (Long), 82
Wanted: Christmas Seal dollars for expanding rehabilitation programs (Egdorf), 146
Why do people buy Christmas Seals? (James), 114
Egdorf, John E., Wanted: Christmas Seal dollars for expanding rehabilitation programs, 146
Eliassen, R., Hazards of air pollution, 109
Eshleman, F. W., awarded Will Ross medal, 106
Europe, TB mortality rates in, 27

F

Fahy, A., Stepping up the search, 85; TB control around the globe, 139; VA-Armed Forces conference, 73
Feldmann, F. M., Testing the tuberculin test, 50
Fischer, M., Needed: eyes to find tomorrow, 98
5 Steps to better management (Meyers), 21
Forgotten TB patient? The (Smick), 165
Funkhouser, E. K., obituary, 48
Furbush, W., Working with committees, 117

G

Gerard, F. J., and Yoder, F. D., Wyoming success story, 77
Gibson, Frank J., Radiological health, 131
Green suit day (Greenwood and Calden), 23
Greenwood, V. J., and Calden, G., Green suit day, 23

H

Hammer, B., Tuberculin testing today: the Oahu program, 51
Hazards of air pollution (Eliassen), 109
Health education at the fair (Kessler), 125
Henry Phipps institute, plans for moving, 96

Hinshaw, H. C., awarded Trudeau medal, 106
Home care, statement on, 142
How can we promote medical education? (Browning), 19
How to set up a TB case register (Phelps), 75
Hudson, H., retirement of, 32

I

Idaho state tuberculosis hospital, 22
Immigration, proposed changes in present laws on, regarding tuberculosis, 9
International union against tuberculosis, report of 1957 meeting of, 14

J

James, Connie H., Why do people buy Christmas Seals?, 114
Jenkins, D. E., TB in unexpected areas, 163
Joint planning pays off (Dorsch), 11
Jones, J. M., TB in adolescence, 7

K

Kanamycin, report on, 4
Kehoe, C. W., selecting the Christmas Seal design, 135
Kessler, A. E., Health education at the fair, 125
Kiningham, B. D., Jr., Recruitment and training, 45
Knight, V., report of work of, 111

L

Laboratory courses, USPHS, 127
Leman, B., The 1958 Christmas Seal Sale: Time out to remember, 162
Let the volunteer do it (Parker), 152
Long, E. R., The value of basic research, 82
Lurie, M. B., report of work of, 44
Lyons, K., Orienting student nurses in tuberculosis, 120

M

Marcinkowski, M. F., appointment of, 32
Medical research, committee on (ATS), report of meeting of, 95
Meyerding, E. A., retirement of, 48
Meyers, C. J., 5 steps to better management, 21
Mitchell, R. S., What are the needs in tuberculosis research?, 83
Morgan, W. M., NTA board of directors, 69; The president's column, 30
Mortality, tuberculosis, rates in Europe, 27; in U.S. (1956), 47
Mulrooney, T. F., the power of the Christmas Seal, 115

N

National conference of tuberculosis workers, officers (1958), 105; officers (1959), 105
National health council, establishes Alan Gregg fund, 31
National tuberculosis association, annual meeting (1958), 30, 34, 35, 37, 63, 67, 99; annual meeting (1959), 158; board meeting (Feb., 1958), 59; board of directors, structure and responsibilities of, 69; officers (1958), 104; officers (1959), 104; personnel, 22, 80; wins Paul Revere award, 72
Neal, J. G., appointment of, 48
NTA annual meeting, 1959 committees, 158
NTA annual meeting roundup, 99
NTA board committees, executive, 141; program and budget, 156; annual meeting program, 196
NTA board meeting, 59
NTA board of directors (Morgan), 69
Needed: eyes to find tomorrow (Fischer), 98
Nonrehabilitated TB patient, a Pennsylvania study (Reisman and Shandler), 150

O

Obituaries:
Funkhouser, E. K., 48
Schwartz, L., 63
Orienting student nurses in tuberculosis (Lyons), 120
Our immigration laws need changing (Brown), 9

P

Parker, William A., let the volunteer do it, 152
Paul Revere award, won by NTA, 72
Perkins, J. E., Balancing risks and values, 2; Inspiration, education, and hospitality, 66; IUAT representative at UN, 14
Phelps, P. S., How to set up a TB case register, 75
Pinner, J. I., Disabled older worker, 25
Porter, A. I., appointment of, 16
Power of the Christmas Seal, The (Mulrooney), 115
President's column, The (Morgan, NTA), 30
Pulmonary biopsies (Theodos), 171
Pulmonary diseases, chair in, established at West Virginia University School of Medicine, 24

R

Radiation, national advisory committee on, appointment of, 64
Radiation, statements of effects of, 2; surgeon general appoints national committee on, 64
Radiological health (Gibson), 131
Radiological health, division of (USPHS), creation of, 74
Recruitment and training (Kiningham), 45
Rehabilitation health: time for action geared to today's needs (Susman), 147
Rehabilitation, report of work done by OVR (1957), 94
Reisman, M. and Shandler, I., The nonrehabilitated TB patient, a Pennsylvania study, 150
Report on emphysema conference (Bower), 173
Report on TB blood test, 134
Respiratory disease, NTA committee on, appointed, 27
Responsibilities of the board (White), 3
Responsibilities of staff (Currie), 5
Revised immigration law, 124
Rigney, M., retirement of, 80
Ross medal, *see* Will Ross medal.
Roth, L. J., report of work of, 31

S

Schmidt, L. H., report of work of, 157
School press project, 119
Schwartz, L., obituary, 63
Scientists at work: (Fal
Bell, J. C., 79
Knight, V., 111
Lincoln, Edith M., 177
Lurie, M. B., 44
Medical research, committee on (ATS), 95
Roth, L. J., 31
Seibert, F. B., 143
Schmidt, L. H., 157
Youmans, G. P., 58
Seibert, F. B., report of work of, 143
Selecting the Christmas Seal design (Kehoe), 135
Selective case finding, 168
Sex and mortality, 174
Shandler, I. and Reisman, M., The nonrehabilitated TB patient, a Pennsylvania study, 150
Shriver, W. H. Jr., Thoughts of a new board member, 118
Sidelights on the annual meeting, 67
Simmons, L., retirement of, 112
Smick, K., The forgotten TB patient, 165
Sprunt, William, A realistic look at the medical X-ray, 130
Staff members, responsibilities of, 5
Statement on BCG, American Trudeau Society, 126
Stepping up the search (Fahy), 85
Susman, R., appointment of, 22
Susman, R., Rehabilitation: time for action geared to today's needs, 147
Swiss student sanatorium, 13

T

TB in adolescence (Jones), 7
TB in unexpected areas (Jenkins), 163
TB control around the globe (Fahy), 139
Teaching communicable disease nursing (Dougles), 62
Theodos, P. A. Pulmonary biopsies, 171
Thoughts of a new board member (Shriver), 118
Trauger, D. A., What is social research, 137
Trudeau medal, award of, 106
Trudeau school of tuberculosis, 43rd annual session, 27
Tuberculin test, values of, 15
Tuberculin testing, bovine, 55; in Topeka, 122; questions and answers on, 57; report of, 51
Tuberculin testing in Topeka, (Achelpohl), 122
Tuberculin testing today (Venable, Hammer, and Daggett), 51
Tuberculosis, cases of in U.S. (1956), 47; chart for data on, 94; in Ceylon, 28; proposed changes regarding, in present immigration laws, 9
Tuberculosis beds, vacant, discussion of ATS statement on, 13; how Connecticut has put them to use (Wilson), 155
Tuberculosis mortality, *see* Mortality, tuberculosis
Tuberculosis, orienting student nurses in (Lyons), 120
Tuberculosis, treatment of, for the adolescent, 7; home treatment for the adolescent, 8
Tuberculosis, what are people saying in 1958 about TB, 149
Tucker, W. B., Medical education: cornerstone of TB control, 18

U

U.S. public health service, appoints national advisory committee on chronic illness and health of the aged, 78; budget (1959), 126; division of radiological health created in, 74; grants for nurses, 127; laboratory courses, 127

V

Vacant TB beds, how Connecticut has put them to use (Wilson), 155
Venable, C. S., Tuberculin testing today: the North Carolina program, 52
Verazide, chemical trials on, reported, 14
VA-Armed Forces conference (Fahy), 73
Vocational rehabilitation, Office of, report of work done (1957), 94

W

Wayne county (Detroit), tuberculosis and health association of, demonstration projects taken over by official agencies, 94
West Virginia University School of Medicine, establishes chair of pulmonary diseases, 23
What are people saying in 1958 about TB, 149
What are the needs in tuberculosis research? (Mitchell), 83
What is social research (Trauger), 137
White, J. K., Responsibilities of the board, 3
Will Ross medal, award of, 106
Wilson, G. C., Vacant TB beds, how Connecticut has put them to use, 155
Working with committees (Furbush), 117
World health and the WHO, 92
World health organization, plans for assembly of, 14
Wyoming success story (Gerard and Yoder), 77

X

X-rays, risks and values of, 2
X-ray surveys, among Indians in Nebraska, 94

Y

Yoder, F. D., and Gerard, F. J., Wyoming success story, 77
Youmans, G. P., report of work of, 58

P

Two new assistants have joined the Social Research Division of the National Tuberculosis Association: **Mrs. Joan Lefford,** formerly speech and hearing therapist at the Goldwater Memorial Hospital, New York City, and **Miss Mary V. Bailey,** formerly research assistant, National Association of Credit Men, New York City.

Daniel J. McCarthy, M.D., one of the founders of the National Tuberculosis Association, died October 9. Dr. McCarthy was a noted neurologist and former professor of medical jurisprudence at the University of Pennsylvania.

Joseph D. Aronson, M.D., professor of bacteriology at the Henry Phipps Institute of the University of Pennsylvania, died on October 17, at the age of 69. Dr. Aronson headed the group that made one of the earlier control studies on BCG among American Indians.

Miss Doris Johnson has resigned as executive secretary of the Boston Tuberculosis Association, effective November 28, to get married.

Edgar G. Smeltzer, Jr., managing director of the Bexar County (Tex.) Tuberculosis Association since 1949, died from a heart attack on October 12. Mr. Smeltzer was formerly field secretary for the Nassau County (N.Y.) Tuberculosis and Public Health Association.

Mrs. Mildred Inez Hill, formerly Seal Sale director of the Long Beach (Calif.) Tuberculosis and Health Association, has been appointed executive director of the Santa Barbara (Calif.) Tuberculosis and Health Association.

H. van Zile Hyde, M.D., formerly chief, Division of International Health, U. S. Public Health Service, has been appointed assistant to the Surgeon General, Leroy E. Burney, for international health.

Mrs. Richard Hopkins has been appointed executive secretary of the Delaware County (Ohio) Tuberculosis and Health Association, succeeding **Mrs. Virgil Bargar,** who recently resigned.

Mrs. Lawrence Arndt has been appointed executive secretary of the Ashland County (Ohio) Tuberculosis and Health Association, succeeding **Mrs. Robert S. McKinley,** who resigned to accept a teaching position. Mrs. Arndt has served as a volunteer with the association for many years.

Mrs. E. A. Paul has been appointed executive secretary of the Putnam County (West Va.) Tuberculosis Association, replacing **Mrs. Ralph Wallace,** who moved to Florida.

Mrs. Margaret Baldwin has been appointed executive secretary of the Hancock County (Ohio) Tuberculosis and Health Association, succeeding **Mrs. Reed Dunn,** who resigned to return to teaching.

Mrs. Lloyd Taylor has been appointed executive secretary of the San Juan (New Mex.) County Tuberculosis Association.

Mrs. William Livengood has been appointed executive secretary of the Fountain County (Ind.) Tuberculosis Association, succeeding **Mrs. Lewis Boling.**

Mrs. Sylvester Huneck has been appointed executive secretary of the Grant County (Ind.) Tuberculosis Association, succeeding **Mrs. Maurice Smith,** who has been appointed Seal Sale director of the Heart of America (Kansas City, Mo.) Tuberculosis Association.

Levitte Mendel, formerly director of public information and health education for the Allegheny County (Pa.) Health Department, has been appointed to the newly created post of associate director of the National Health Council.

Fred H. Broecker, formerly case supervisor for the Wisconsin Anti-Tuberculosis Association, has been appointed director of rehabilitation for the Virginia Tuberculosis Association.